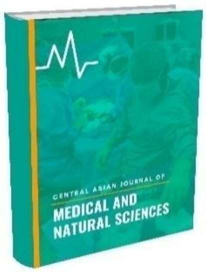
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New Views and Modern Approaches to the Prevention of Dental Anomalies

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RESUME: The article describes new views and modern approaches to the prevention and early detection of risk factors for the development of dental anomalies in children. The author presented an extensive review of the literature of foreign and domestic scientists, detailed the main factors of the formation of dental anomalies in children. Common causes of risk factors for the development of dental anomalies in children describe modern approaches to research and treatment planning.

Keywords : Dental anomalies, TMJ dysfunction, apnea, prevention, orthodontics.

Early detection of risk factors for the development of dental anomalies, diagnosis of myofunctional disorders, timely implementation of therapeutic and preventive measures play an important role, since if deviations from the "norm" are not eliminated during the formation of occlusion of temporary teeth, then in the future there is a high probability of aggravation of pathology, it acquires more stable, pronounced forms and can lead to general disorders in the body [6]. Of interest are the studies of Chris Farrell, who, studying the problems of TMJ dysfunction in adults, summarized that the root cause of these disorders is a myofunctional imbalance in the maxillofacial region in childhood [9]. Ideas about the complexity and unity of the organism in the perspective of the concept of a virtual physiological person explain the influence of the dysfunction of the dental system on the occurrence of violations of the activity of other organs and systems [21].

It should be noted that with dental anomalies, social maladaptation of a person is often observed, which entails a decrease in the quality of his life. At the same time, morphological changes in the frontal part have the greatest negative impact in the sphere of emotional and social well-being [31, 32]. It was found that the performed hardware treatment can improve the quality of life of patients to values close to normal, even before the removal of the bracket system [20, 24]. Summarizing the literature data, it is possible to identify the main negative consequences of dental anomalies:

1. Aesthetic disorders [16, 10].
2. Dysfunction of the temporomandibular joint [12, 14].
3. Snoring during sleep and obstructive sleep apnea syndrome [8, 15, 13].
4. Circulatory dysfunction, headache [22, 30, 17].

5. Periodontal tissue diseases, local circulatory disorders, functional overload of individual groups of teeth (articulation injuries), decreased chewing efficiency [18, 24].
6. Predisposition to caries, premature loss of teeth [23, 28].
7. Violation of the digestive system function [19].
8. Decrease in the volume of air in the accessory cavities of the nose, violation of the function of external respiration. Predisposition to respiratory viral diseases [29].
9. Postural disorders.
10. Delayed psychosomatic development due to complex inferiority [17, 27].

Prevention of dental anomalies should be carried out taking into account the age of the child. The most favorable for preventive measures is the period of temporary bite. At this time, clinical signs of the main etiological factors are diagnosed, primarily OFD, which provoke the development of dental anomalies. In the period of a replacement bite, measures to prevent anomalies of the dental system become less effective. In children with occlusion of permanent teeth, dental anomalies that have already been formed and require complex orthodontic treatment are most often determined [5].

Preventive measures for early detection of risk factors for the development of dental anomalies in children should be started at the stage of patronage by a pediatrician. At the same time, it is necessary to pay attention to the following causal factors: a decrease in the immunological reactivity of the child's body (diseases of early childhood, infectious, endocrine diseases, frequent respiratory diseases, rickets); artificial feeding; irrational use of pacifiers; bad habits; incorrect position during sleep; postural disorders; orofacial dysfunctions [26]. To ensure effective prevention of dental anomalies, the following organizational measures are necessary:

- routine examination of the child population in order to identify risk factors and diagnose emerging or formed dental anomalies;
- preventive planned sanitation of the oral cavity in children;
- identification of dispensary groups for monitoring and conducting preventive and curative measures, cooperation with pediatricians of all profiles of the specialized service;
- timely referral to an orthodontist when detecting signs of malocclusion, dental defects and dentition;
- monitoring the dynamics of the active stage of orthodontic treatment;
- Dynamic monitoring of the elimination of the identified etiological factors of the development of dental anomalies. Control of the myodynamic balance of the muscles of the maxillofacial region using standard means of myofunctional correction (in the absence of indications for specialized hardware treatment);
- Organization and conduct of sanitary education and hygienic training in children's groups with the inclusion of parents, teachers and medical personnel in educational programs [18, 19].
- To implement the tasks of prevention of dental anomalies and the implementation of organizational measures, the following is necessary:
- to ensure the further development of the network of children's dental clinics, clinical centers, to organize children's departments in multidisciplinary dental clinics or other medical institutions;
- to increase the number of orthodontic departments and offices in medical institutions;

- to maintain a high level of the material and technical base of a medical institution with any form of ownership, to provide it with qualified personnel, to conduct marketing monitoring of selection priority criteria to improve the quality of dental (orthodontic) care [31].

The system of comprehensive prevention of dental anomalies in children living in areas with an unfavorable environmental situation must necessarily include, in addition to methods of antenatal and postnatal prevention in various age periods, performed with the participation of related specialists and mandatory state measures [1]. Local governments should develop and implement programs aimed at improving the quality of the environment in these regions. At the same time, it is necessary to solve the issues of capital repairs and modernization of treatment facilities with the installation of modern filters, the transition to the use of waste-free technologies, the closure or transfer to a safe distance from the residential area of environmentally unsafe industries, the improvement of the population [27].

In the plan of sanitary and educational work with parents, educators, medical staff, doctors of a pediatric dental clinic should include the following topics:

1. Physiological timing of eruption of temporary and permanent teeth;
2. The significance of violations of the function of swallowing, breathing, speech, chewing and posture in the formation of dental anomalies
3. Adverse effects of bad habits on the dental system;
4. The role of oral sanitation and pediatric prosthetics in the prevention of dental anomalies in children;
5. Rational choice of oral hygiene products [4].

The high efficiency of the educational program in the prevention of major dental diseases in primary school students has been established. Children who did not study under the program did not show such a significant improvement in dental health indicators [2]. Currently, elastopositioners can be used in orthodontic practice for preventive purposes: trainer system (Infant, T4K, T4A), preventive series (I-3, I-2, I-2n), Myobrace system (MB, MBN, MBS), TMJ system, LM activators and LM-trainers (varieties S and M), Ortho-Tain devices, correctors. With the help of elastopositioners, primary preventive measures are carried out aimed at reducing the likelihood of diseases, secondary — interrupting or slowing down the progression of diseases at an early stage of development, tertiary — contributing to reducing the progression of complications of diseases or existing disorders [9, 14].

Correction of myofunctional disorders using elastomeric mouthguards, myogymnastics and breathing exercises for the prevention of dental anomalies in children can be carried out by pediatric dentists, general practitioners, pediatricians [12].The researchers proved the medical, social and economic effectiveness of prevention programs using standard means of myofunctional correction. Thus, in 5-9-year-old children with orofacial dysfunctions suffering from acute respiratory infections of the upper respiratory tract, myofunctional correction helped to reduce the incidence of diseases by 1.58 times, the total duration of diseases per year by 1.87 times and the average duration of one disease by 18%. After preventive myofunctional correction, more than 75% of children did not need orthodontic treatment [19, 33].

Currently (2009-2010), the prevalence and structure of anomalies of the maxillary system in a "specific" contingent – children with endocrine diseases, bronchial asthma - has been studied. The epidemiology of dental anomalies and deformities in children from different regions of the city of Bukhara is not presented in the bibliometric databases. There is no data on risk factors for the development of dental anomalies with an analysis of the dominant causes in various regions of the city of Bukhara. This information is necessary for planning medical and preventive measures. To date, no preventive measures have been developed and implemented in the field of practical healthcare of the

city of Bukhara to prevent dental anomalies in children with the inclusion of means of myofunctional correction and educational programs.

LIST OF LITERATURE

1. Адмакин О.И., Скатова Е.А., Шлегель Ю.В. Эффективность реализации программы стоматологического просвещения школьников Алтайского края // Стоматология детского возраста и профилактика. – 2014. -№3.-С. 22-25
2. Азимова Ш.Ш., Абруев У.Р, Расулов М.М. Тиш-жағ тизими аномалияларининг Бухоро шахар мактаб ёшдаги болалар орасида тарқалиши. //Доктор Ахборотномаси. 2020. - №1. - С. 23-28 бет.
3. Алимирзоев Ф.А. Зубочелюстные аномалии детского возраста и их диагностика//Достижения вузовской науки. 2014. № 10. С. 63-67
4. Аргутина А.С., Голод М.С. Распространенность и профилактика стоматологической заболеваемости у детей//Бюллетень Национального научно-исследовательского института общественного здоровья имени Н.А. Семашко. 2014. № 1. С. 23-26.
5. Ж.Н. Бакаев. Доимий тишларнинг чиқиши вақтининг ўзгариши натижасида тиш-жағ тизим аномалияларининг этиопатогенези, замонавий ёндашув.(Адабиётлар шарҳи) «Тиббиётда янги кун», 4 (32) 2020, С. 119- 123.
6. Гаффоров С.А., Бакаев Ж.Н. Особенности взаимосвязи заболеваний слизистой оболочки полости рта с соматической патологией //Вестник ТМА. - Ташкент, 2019. - № 3. - С.20-24.
7. Гаффоров С.А., Бакаев Ж.Н. Оғиз бўшлиғи шиллиқ қавати касалликлари – патологик аспектлари ва профилактика асослари // Stomatologiya. - Ташкент, 2019. - №4 (77). - С.75-80.
8. Картон Е.А. Образ жизни, состояние здоровья детей младшего школьного возраста с нарушением прикуса, и разработка мероприятий профилактики аномалий окклюзии //Электронный научный журнал «Социальные аспекты здоровья населения» http:// 2021.vestnik.mednet.ru с.1-8
9. Мансур Ю.П. Ортодонтическая патология как аспект качества жизни взрослых лиц//Вестник ВолгГМУ. -2015.- Выпуск 3 (55). - С.34-36.
10. Олимов С.Ш. Значение метаболических показателей слюны в развитии зубочелюстных аномалий у детей с метаболическим синдромом.// “Стоматологик касалликларни даволашда ва профилактикасидаги долзарб муаммолар” Илмий амалий конференцияси. Бухоро. 2016.- 33бет.
11. Олимов С.Ш., Гаффоров С.А. Болаларда тиш-жағ тизими нуқсонлари ва соматик касалликлар орасида боғлиқликнинг илмий асослари. (адабиётлар шарҳи).// Журнал. Stomatologiya. -2019й №1.60-65 бет.
12. Олимов С.Ш., Саидов А.А., Гаффаров С.А., Хожиметов А.А. Мактаб ёшдаги болаларда гепатобилиар тизимнинг тиш-жағ нуқсонлари патогенезидаги аҳамияти.// Журнал Доктор ахборотномаси. Самарканд. 2019 -№2. - 35-39 бет.
13. Олимов С.Ш. Оценка эффективности профилактических мероприятий при ортодонтическом лечении детей с зубочелюстными деформациями.// Ўқув-услубий қўлланма. ЎзР ССВ томонидан 13.11.08 тасдиқланган. Ташкент. 2019. - 21 б.

14. Antunes Ortega AC, Pozza DH, Rocha Rodrigues LL, Guimarães AS. Relationship Between Orthodontics and Temporomandibular Disorders: A Prospective Study//J Oral Facial Pain Headache. 2016;30(2):134-138

15. Bakaev Zh.N.,Olimov S.Sh. New views on diagnostic methods for the formation of retention of the upper permanent canines (LITERATURE REVIEW) / International Journal on Integrated Education // Volume 3, Issue XII, December 2020, e-ISSN: 2620 3502, p-ISSN: 2615 3785, – P. 129-135.

16. J.N. Bakaev, S. Sh. Olimov. Modern approaches to diagnosis, etiology and pathogenesis of the upper permanent canine retention formation (literature Review) / European Journal of Molecular & Clinical Medicine // Volume 07, Issue 03, 2020. - P. 3815 -3830.

17. Bakaev Zh.N., Olimov S.Sh. Treatment and prevalence of abnormal eruption of permanent canines (Literature review) / Middle EuroDean Scientific Bulletin // VOLUME 7, December 2020, ISSN 2694-9970, – P. 16-19.

18. Baskaradoss JK, Geevarghese A, Roger C, Thaliath A.Korean Prevalence of malocclusion and its relationship with caries among schoolchildren aged 11 - 15 years in southern India //J Orthod. 2013; 43(1):35-41.

19. Cakan DG, Ulkur F, Taner TU. The genetic basis of facial skeletal characteristics and its relation with orthodontics.Eur J Dent. 2012 Jul; 6(3):340-5.

20. Choi SH, Kim BI, Cha JY, Hwang CJ. Impact of malocclusion and common oral diseases on oral health-related quality of life in young adults//Am J Orthod Dentofacial Orthop. 2015; 147 (5):587-595.

21. Claudino D, Traebert Malocclusion, dental aesthetic self-perception and quality of life in a 18 to 21 year-old population: a cross section study//J.BMC Oral Health. 2013; 13:3.

22. Dimberg L, Arnrup K, Bondemark L. The impact of malocclusion on the quality of life among children and adolescents: a systematic review of quantitative studies //Eur J Orthod. – 2015.- 37(3):238-247.

23. Dimberg L. Malocclusions and quality of life. Cross-sectional and longitudinal studies in children //Swed Dent J Suppl. – 2015.- (237):1-88

24. Katyal V, Pamula Y, Martin AJ, Daynes CN, Kennedy JD, Sampson WJ. Craniofacial and upper airway morphology in pediatric sleep-disordered breathing: Systematic review and meta-analysis//Am J Orthod Dentofacial Orthop. 2013;143(1):20-30.

25. Komazaki Y, Fujiwara T, Ogawa T, Sato M, Suzuki K, Yamagata Z, Moriyama K. Association between malocclusion and headache among 12- to 15-year-old adolescents: a population-based study//Community Dent Oral Epidemiol. 2014;42(6):572-580

26. O. E. Idiev Maxillofacial Region in Children with Cerebral Palsy. / Middle European Scientific Bulletin //VOLUME 13 June 2021, P. 203-207.

27. O. E. Idiev Cerebral Palsy and Dental Anomalies. / Central Asian Journal Of Medical And Natural Sciences // Volume: 02 Issue: 03 | May-June 2021, P. 350-355.

28. O. E. Idiev Evaluation of Electromyographic studies of masticatory muscles in Children with Cerebral Palsy. / International Journal On Human Computing Studies//Volume: 03 Issue: 2 March-April 2021, P. 46-48.

29. N. N. Khabibova, L.A. Saidova State of the dentoalveolar system in children from mothers with gestational hypertension / Middle European Scientific Bulletin // VOLUME 7, December 2020 ISSN 2694-9970, p.101-104

30. Okeson JP. Evolution of occlusion and temporomandibular disorder in orthodontics: Past, present, and future //Am J Orthod Dentofacial Orthop. 2015.- 147(5 Suppl). - P. 21-23

31. S. A. Gafforov, G. E. Idiev The importance of neurological and psychological methods in the diagnosis of disorders of the activity of the jaw-lower jaw /Euro Science: International Conference on Social and Humanitarian Research // April 25 rd -26 th 2021- P. 130-134

32. Tsukiyama Y, Yamada A, Kuwatsuru R, Koyano K. Bio-psycho-social assessment of occlusal dysaesthesia patients //J Oral Rehabil. 2012;39(8):623-629

33. Vellappally S, Gardens SJ, Al Kheraif AA, Krishna M, Babu S, Hashem M, Jacob V, Anil S. The prevalence of malocclusion and its association with dental caries among 12-18-year-old disabled adolescents //BMC Oral Health. 2014; 14:123